U.S. Army Corps of Engineers
St. Paul District

DEVILS LAKE EMERGENCY OUTLET NEWSLETTER

Issue #1 March 1998

North Dakota State Water Commission

Congress Asks For Environmental Study of Proposed Outlet; Public Opinion Will Help Define Study Scope

In June 1997, President Clinton signed Public Law 105-18, which included several measures in response to Devils Lake flooding. This law requires the Army Corps of Engineers (Corps) to carry out preconstruction engineering and design for a proposed emergency outlet from Devils Lake, and to prepare an Environmental Impact Statement (EIS). An EIS evaluates the significant environmental impacts of a proposed project and is intended to help public officials decide whether to go forward with a project. *Public involvement is important in all phases of EIS preparation.* Public Law 105-62, signed in October 1997, authorized $5 million to initiate project construction; this funding, however, is dependent on further Congressional action.

The first step in preparing an EIS is to define the specific issues, impacts, and alternatives to be analyzed. This is called "scoping." For more than a year, as part of other flood response activities, the Corps has been coordinating with regulatory agencies and public officials to identify scoping issues. The Corps now wishes to hear public opinion about issues to be considered and how crucial each issue is to deciding whether the emergency outlet should be built. To accomplish this, the Corps has scheduled public scoping meetings in seven North Dakota locations for the week of March 23, 1998 (see below).

This newsletter summarizes the history of Devils Lake flooding and actions taken to date, outlet alternatives that have been evaluated and the proposed emergency outlet plan, requirements the Corps must meet in preparing the EIS, and how community members and the general public can participate in the EIS process. The back page of this newsletter lists who to contact for more information.

Public Scoping Meetings

Location	Date	Time	Meeting Place
Valley City, ND	Monday, March 23, 1998	7:00 p.m.	Froemke Auditorium, 101 College St. SW Valley City State University, Valley City
Lisbon, ND	Tuesday, March 24, 1998	11:00 a.m.	4-G's Restaurant, 510 Main St. Basement Banquet Room, Lisbon
Cooperstown, ND	Tuesday, March 24, 1998	7:00 p.m.	Cooperstown High School Gymnasium 1207 Foster Ave. NE, Cooperstown
Spirit Lake, ND (Fort Totten)	Wednesday, March 25, 1998	11:00 a.m.	Auditorium, Spirit Lake Casino 7889 Hwy 57, Spirit Lake (Fort Totten)
Devils Lake, ND	Wednesday, March 25, 1998	7:00 p.m.	Pioneer Hall, UND Lake Region 1801 College Ave., Devils Lake
Grand Forks, ND	Thursday, March 26, 1998	7:00 p.m.	Grand Forks Civic Auditorium 615 1st Ave. N, Grand Forks
Fargo, ND	Friday, March 27, 1998	11:00 a.m.	O'Leary Room, Kelly Inn I-29 and Main Ave., Fargo

Each meeting is expected to last 3 hours. For directions on how to get to a meeting place, please call Mike Grafsgaard with the North Dakota State Water Commission (NDSWC) in Bismarck at 701-328-1050 by March 18. Anyone requiring an auxiliary aid or service should contact and notify the NDSWC by March 18 at 701-328-2750 (TDD: 701-328-3696).

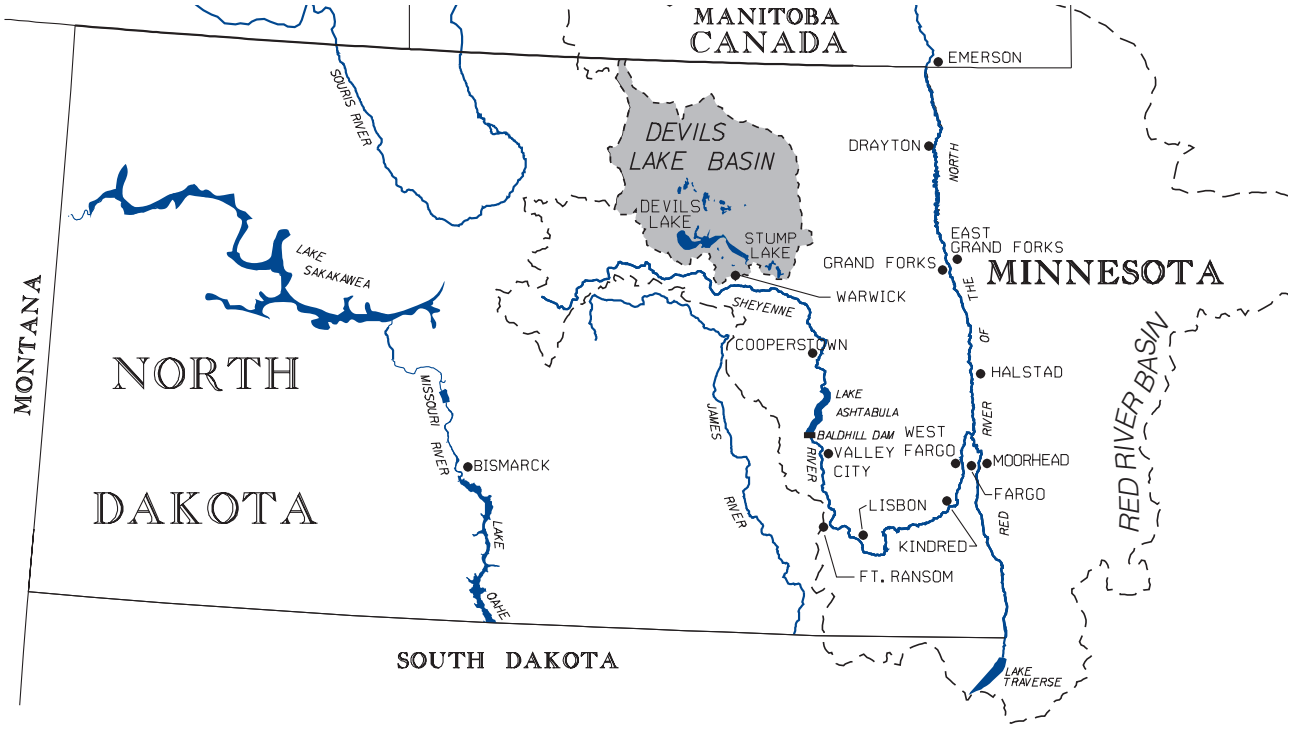
History and Effects of Devils Lake Flooding

Devils Lake lies in a closed basin in northeastern North Dakota (see map below). The lake experiences extreme variations in elevation as climate patterns shift. Evidence suggests that Devils Lake has, on several occasions during the past 10,000 years, overflowed to the Sheyenne River when it reached an elevation of more than 1,459 feet above mean sea level.* In 1867, when lake elevations were first recorded, the lake was at a level of about 1,438; in 1940, the lake reached its recorded low of 1,401. From that point, Devils Lake has followed a rising trend, reaching the modern high of 1,443 feet in July 1997 (see graph on page 3). The lake is currently at an elevation of 1,442.7 feet, 20 feet higher than in 1993.

Both low and high lake levels cause major problems for Devils Lake. At low elevations, salinity concentrations are so great that fish and wildlife are seriously affected; in addition, boat access around the lake is cut off and the economic benefit from the area's recreational fishing (estimated at more than $50 million annually) is severely reduced. High lake levels, on the other hand, cause flood damage to farms, towns, and transportation systems. Heavy precipitation in 1993 caused Devils Lake to rise five feet in six months, and the lake has risen steadily each year since. The volume of water in Devils Lake has more than tripled since July of 1993, flooding upwards of 50,000 acres of adjacent land. Much of this land was deeded farm or ranch property. The lake now covers nearly 100,000 acres. More than 170 buildings have been affected. On the Spirit Lake Nation Reservation 83 homes have been or will be moved, and insurance claims paid by the National Flood Insurance in 1996 totaled $7.1 million for moving, buying out, or tearing down shoreline homes.

Basic community services have also been hard hit. Highways 20 and 57 south of the City of Devils Lake were flooded in spring 1997. Both highways are key routes for vehicles traveling to and from Devils Lake and the Spirit Lake Reservation. The flooding cut people off from jobs, schools, groceries, and emergency services. Millions of dollars were spent raising highways next to Devils Lake to 1,448 feet, an elevation that is now less than six feet above the current lake level. The North Dakota State Park System has four parks near the lake, all affected by flooding. Narrows State Park was flooded and abandoned in 1995. The road to Grahams Island State Park was inundated in spring 1997, forcing the park to close for the summer. Shelvers Grove and Black Tiger Bay Parks remain open, but have several flooded facilities. To keep the Ramsey County rural sewer system operable, pipes and pumps will need to be moved. Also, as lakeshore property owners move away to escape the rising water, income needed to maintain the sewer system decreases. More than 125 customer accounts have been lost due to flooding. Likewise, as homes are moved away from the lake, the tax base of local governments is eroding.

**All elevations in this newsletter are reported in feet above mean sea level.*



Strategies and Actions to Address Devils Lake Flooding

The focus of the EIS as authorized by Public Law 105-18 is concentrated on an emergency outlet to release water from Devils Lake to the Sheyenne River. However, Federal, State, and local agencies, under other authorities, are addressing area flooding problems with a combination of three distinct strategies: (1) basin-wide water management, (2) infrastructure protection, and (3) the proposed emergency outlet. Each strategy and the actions taken to date are briefly described below.

Basin-Wide Water Management

Sound water management practices include retaining as much water as practical on the land to reduce runoff into the lake. Best management practices, including minimum tillage, allow cropland to hold more moisture than conventional tillage methods. An Environmental Protection Agency demonstration site, known as the Grand Harbor project, shows that proper land management can be beneficial to landowners, downstream residents, and wildlife.

Many other efforts help retain water in the upper basin. The North Dakota State Water Commission (NDSWC) is identifying potential illegal drains. Those confirmed to be illegal by the local Water Resource Board will be closed. Upper basin lake control structures are in the process of being reworked or having their operating plans revised to allow water to be held at higher levels. The U.S. Fish and Wildlife Service has identified more than 12,000 acre-feet of storage available on their land holdings in the basin; some storage projects have already been completed. The NDSWC's Available Storage Acreage Program (ASAP) pays landowners to temporarily store water on private land. In 1997, 22,000 acre-feet were stored under ASAP, and the program has been extended into 1998. Additionally the Conservation Reserve Program, State and Federal Waterbank Programs, Wetland Reserve Program, and the North Dakota Wetlands Trust all encourage or pay for wetland restorations in the basin.

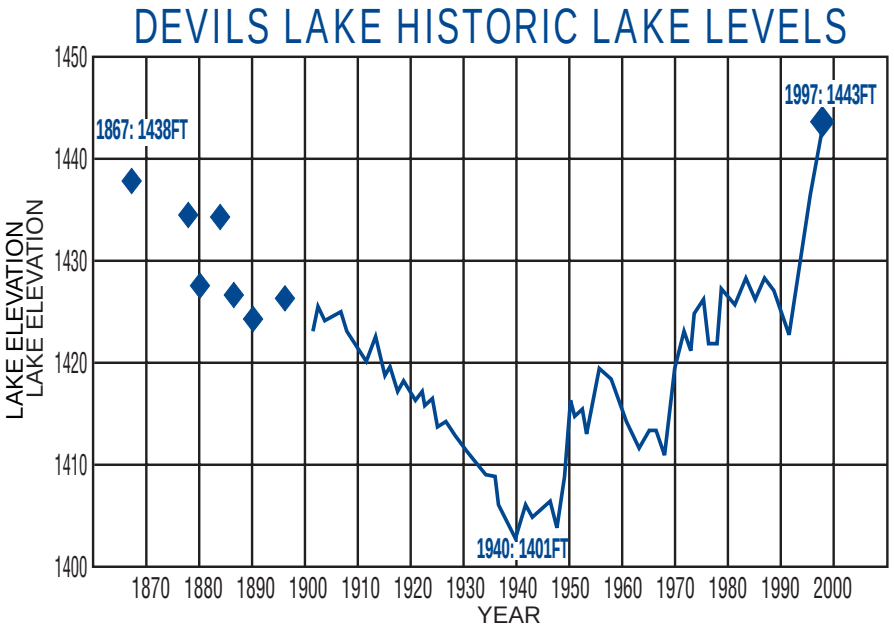
The Devils Lake Basin Joint Water Resource Board helped develop and endorses a basin water management plan. The Board has hired a full-time manager to help carry out the plan. Sub-basin committees, consisting of local residents, have been established to help achieve the plan's water management objectives.

Infrastructure Protection

The second strategy involves protecting basic community infrastructures. Started in 1997 and continuing into 1998 are 17 projects around Devils Lake to raise highway elevations; the total cost of these projects is $27.2 million. Plans are also underway to raise Highway 57 to 1,455 feet during 1998 and 1999 at a cost of $12.9 million. Currently, $950,000 is allocated to move pipes and pumps that are part of the Ramsey County sewer system. In 1997, the Corps substantially completed, at a cost of about $26 million, the first phase of a project to raise the City of Devils Lake levee system to provide protection from a lake elevation of 1,445 feet. Plans are underway to raise the levees during 1998 to provide additional protection up to 1,447 feet, at an estimated additional cost of $12 million.

Emergency Outlet

The third strategy is an emergency outlet that would allow the controlled release of Devils Lake water into the Sheyenne River. Several different locations and conveyance methods have been considered. In all cases, the major concerns are the potential water quality impacts and flood risk for the Sheyenne River and the Red River of the North. The following sections outline the outlet alternatives that have been evaluated and describe the proposed emergency outlet plan that is to be the subject of the EIS.



Overview of Outlet Alternatives

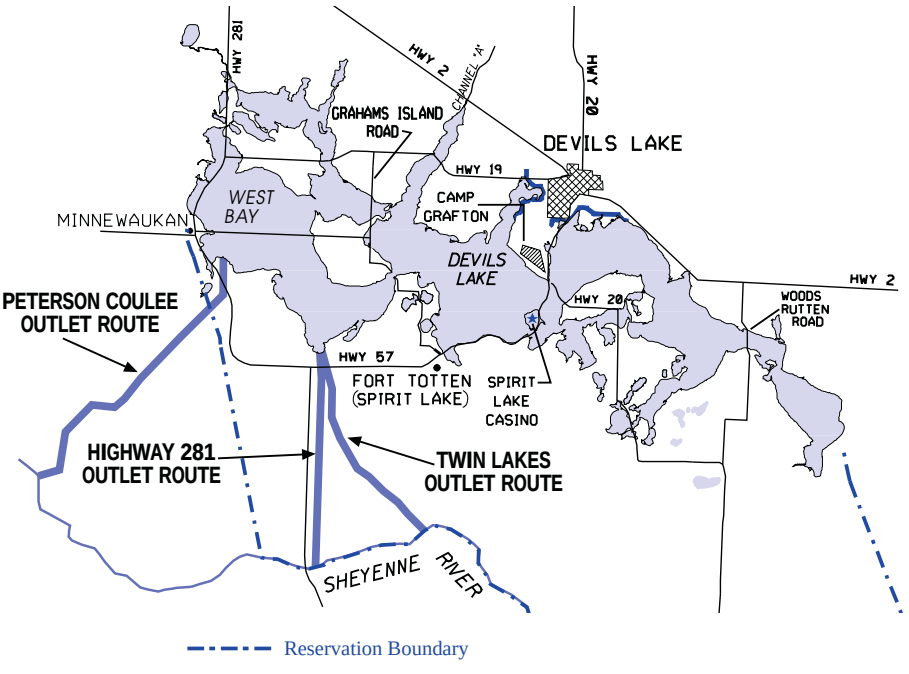
The U.S. Army Corps of Engineers began evaluating outlet alternatives nearly 10 years ago as part of an earlier effort to find solutions to the rising elevation of Devils Lake. In a 1988 *Draft Feasibility Study and Environmental Impact Statement*, seven outlet plans and 14 different routes were evaluated. The Corps evaluated outlet alternatives exiting from points along the western, southern, and eastern sides of Devils Lake. With the exception of west-end alternatives, all other outlet candidates were dropped from further consideration due to cost, lack of Tribal support, land ownership issues, environmental impacts, and/or high levels of sulfates and total dissolved solids (TDS) that would limit the capability to discharge from the lake.

Three alternatives were considered in detail—Twin Lakes, Highway 281, and Peterson Coulee (see map below). All three originate in the West Bay, where sulfate and TDS levels are much lower than in locations further east. Since all three routes cross the Spirit Lak

tially or wholly, Tribal cooperation is critical in the decision-making process. The Twin Lakes and Highway 281 routes lie entirely within the Reservation, whereas only the northernmost portion of the Peterson Coulee route crosses the Reservation. Because the Tribe expressed serious concerns with the Twin Lakes route and because of significant environmental impacts along this corridor, the Twin Lakes plan was dropped from further consideration. The Highway 281 corridor was dropped because of similar Tribal Trust issues plus higher costs.

Therefore, the Peterson Coulee route has been selected as the preferred alternative for the emergency outlet from Devils Lake. The Spirit Lake Nation initially supported the Peterson Coulee route, but recently introduced a resolution opposing an emergency outlet.

A more detailed description of the Peterson Coulee route is presented on the next page.



Devils Lake Flooding Studies

Since the 1960s, Devils Lake flooding has been the subject of many studies. Following is a partial list of some of the more recent study reports. These and other reports referenced in this newsletter are available for review at the NDSWC office in Bismarck, ND and the Corps office in St. Paul, MN. See the back page for details on who to contact to review these reports.

1990 *Devils Lake Stabilization Briefing Report*, NDSWC

1992 *Devils Lake Basin Reconnaissance Report*, U.S. Army Corps of Engineers

1995 *Report of the Devils Lake Basin Interagency Task Force*, Federal Emergency Management Agency, Region VIII

1995 *Devils Lake Basin Water Management Plan*, Devils Lake Basin Task Force and NDSWC

1996 *Devils Lake, North Dakota, Contingency Plan*, U.S. Army Corps of Engineers

1996 *Emergency Outlet Plan, Devils Lake, North Dakota*, U.S. Army Corps of Engineers

1997 *Upper Sheyenne River Channel Capacity Study*, NDSWC

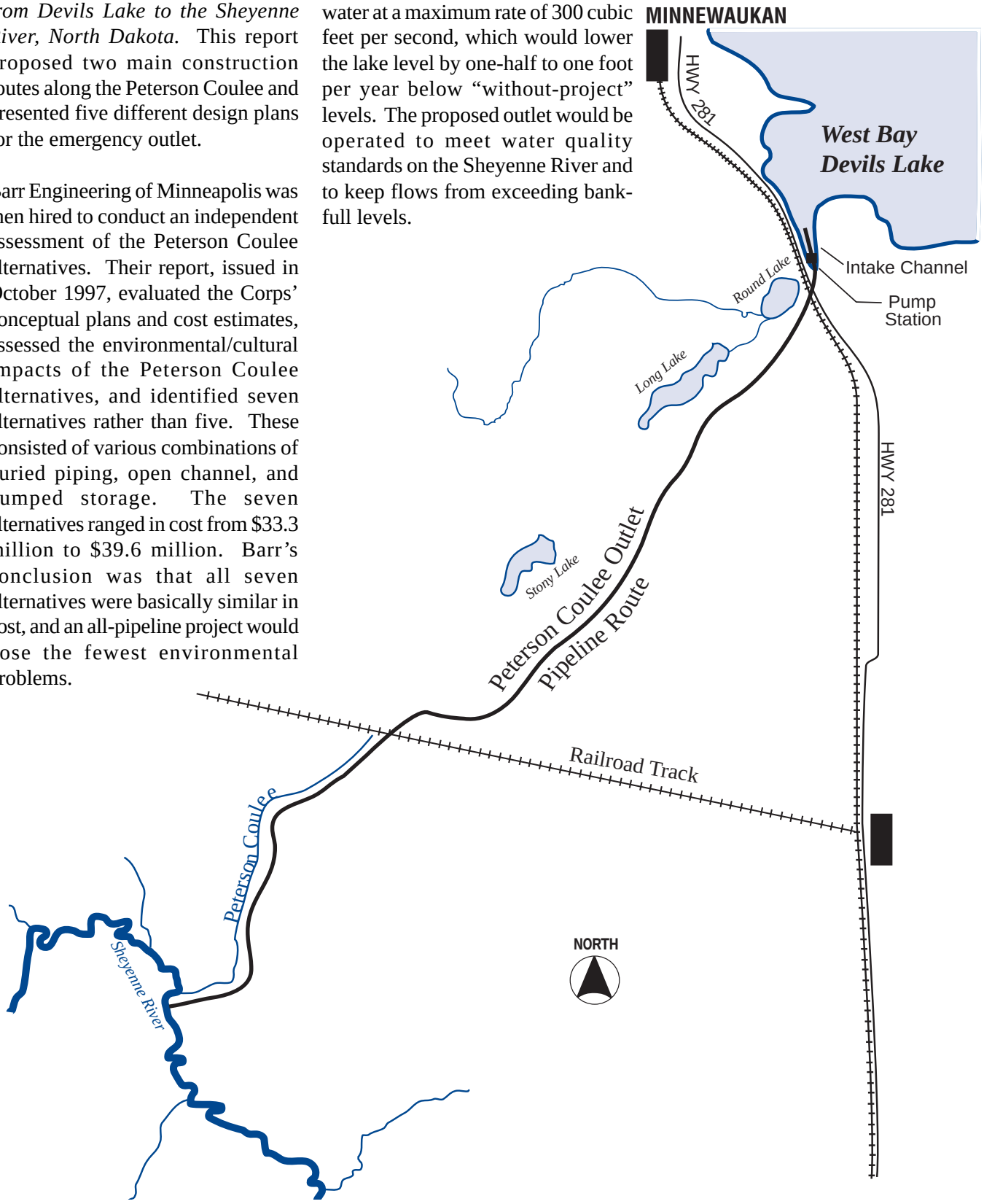
1997 *Summary Report on Route and Plan Selection for an Emergency Outlet from Devils Lake to the Sheyenne River, North Dakota*, U.S. Army Corps of Engineers

Peterson Coulee:
The Proposed Emergency Outlet Plan

In July 1997, the Corps issued the *Summary Report on Route and Plan Selection for an Emergency Outlet from Devils Lake to the Sheyenne River, North Dakota*. This report proposed two main construction routes along the Peterson Coulee and presented five different design plans for the emergency outlet.

Barr Engineering of Minneapolis was then hired to conduct an independent assessment of the Peterson Coulee alternatives. Their report, issued in October 1997, evaluated the Corps' conceptual plans and cost estimates, assessed the environmental/cultural impacts of the Peterson Coulee alternatives, and identified seven alternatives rather than five. These consisted of various combinations of buried piping, open channel, and pumped storage. The seven alternatives ranged in cost from $33.3 million to $39.6 million. Barr's conclusion was that all seven alternatives were basically similar in cost, and an all-pipeline project would pose the fewest environmental problems.

Based on Barr's independent assessment, the Corps is proposing an all-pipeline outlet that would pump water at a maximum rate of 300 cubic feet per second, which would lower the lake level by one-half to one foot per year below "without-project" levels. The proposed outlet would be operated to meet water quality standards on the Sheyenne River and to keep flows from exceeding bank-full levels.



Environmental Impact Study (EIS) Requirements

The National Environmental Policy Act (NEPA) requires Federal agencies to prepare Environmental Impact Statements for major Federal actions, such as the proposed emergency outlet from Devils Lake, that significantly affect the quality of the human environment.

Results of the various studies required during preparation of the EIS will be available for public review either as they are prepared, or as part of the Draft Environmental Impact Statement when it is completed and released for public comment. An anticipated timetable is as follows:

- *Draft Scoping Document:*
  Summer 1998
- *Report to Congress:*
  Summer 1998
- *Final Scoping Document:*
  Fall 1998
- *Draft Environmental Impact Statement:*
  Fall 1999

How You Can Be Involved

The Corps and NDSWC welcome and encourage active public involvement in this EIS process. You can be involved in several ways:

- Attend one of the scoping meetings the week of March 23, 1998 (see front page for times and locations). At the scoping meetings, you will have the opportunity to:

  (1) Learn more about the currently identified scoping issues (see next page), which have been identified over the last year through discussions and correspondence with local, State, and Federal regulatory agencies, public officials, and other organizations.
  (2) Identify issues you feel are important.
  (3) Help prioritize all identified scoping issues.
  (4) Submit written comments on the emergency outlet.

- Submit written comments to the Corps by letter or e-mail, especially if you are unable to attend the scoping meetings.

- Review and comment on the Draft Scoping Document when it is issued (scheduled for Summer 1998).

- Review the draft Environmental Impact Statement when it is released, attend the public meetings that will be held once the EIS is released, and submit comments on the EIS.

- Stay informed about the progress of the EIS through reading the periodic newsletters, visiting the Corps and NDSWC computer web pages, and reviewing reports available at the Corps and NDSWC offices.

See back page for how to get more information about the Emergency Outlet EIS.

The Letter of the Law

Preparing an EIS for the proposed emergency outlet is stipulated in Public Law 105-18, the Emergency Supplemental Appropriations Act, signed by President Clinton in June 1997. The language of the law dealing with the emergency outlet reads as follows:

That with $5,000,000 of the funds appropriated herein, the Secretary of the Army is directed to initiate and complete preconstruction engineering and design and the associated Environmental Impact Statement for an emergency outlet from Devils Lake, North Dakota, to the Sheyenne River.

Public Law 105-62, the 1998 Energy and Water Development Appropriations Act, was signed by the President in October 1997. This law authorized $5 million to begin construction of the emergency outlet provided that construction is, among other things, in compliance with NEPA. A key provision of NEPA is that an EIS be prepared for major Federal actions that significantly affect the quality of the human environment. Public Law 105-62 says:

That the Secretary of the Army . . . may use up to $5,000,000 . . . to initiate construction of an emergency outlet; except that funds shall not become available unless the Secretary . . . reports to Congress that the construction is technically sound, economically justified, environmentally acceptable and in compliance with the National Environmental Policy Act.

Currently Identified Scoping Issues

The following issues have been identified over the past year through discussions and correspondence with local, State, and Federal regulatory agencies, public officials, and other organizations. Participants at the public scoping meetings will be asked to identify issues they think should be evaluated in the EIS and help prioritize all identified scoping issues.

Issue A
Water quality in Devils Lake
• sulfates • total dissolved solids • mercury • other water quality parameters

Issue B
Downstream water quality (Sheyenne River, Red River of the North, Lake Ashtabula)
• sulfates • total dissolved solids • mercury • other water quality parameters

Issue C
Water quantity in Devils Lake
• flooding potential • private and public flood damage • low water levels • effects on recreational fishing and water sports

Issue D
Downstream water quantity
• flooding • effects on fish hatchery operation • summer storm events

Issue E
Devils Lake aquatic resources
• fishery health • bioaccumulation of mercury • plankton and other nutrients

Issue F
Downstream aquatic resources
• fishery health • bioaccumulation of mercury • plankton and other nutrients • biota transfer (transfer of non-native species to downstream waters) • riparian (riverbank) vegetation

Issue G
Downstream erosion and sedimentation
• along the Sheyenne River • along Lake Ashtabula • along the Red River

Issue H
Groundwater
• quality • quantity • levels • soil salinity

Issue I
Water users/water supply
• irrigators • municipal and industrial water supply • water treatment facilities • permitted dischargers

Issue J
Devils Lake natural resources
• scientific and natural areas • federal and state management areas • wetlands • forested areas • threatened and endangered species

Issue K
Downstream natural resources
• scientific and natural areas • federal and state management areas • wetlands • forested areas • threatened and endangered species

Issue L
Devils Lake agriculture
• higher water tables • reduced land base • soil salinity

Issue M
Downstream agriculture
• higher water tables • river crossings • water for livestock • erosion

Issue N
Devils Lake recreation
• fishery • boating hazards

Issue O
Downstream recreation
• fishery • snowmobiling • Sheyenne River • Lake Ashtabula • Red River

Issue P
Cultural
• archaeological/historical • cultural resources

Issue Q
Spirit Lake Nation
• cultural resources • traditional cultural properties • Tribal trust resources • sovereignty • groundwater • economics • environmental justice

Issue R
Other States and Nations
• boundary Waters Treaty of 1909 with Canada • Minnesota issues • biota transfer

Issue S
Economic
• infrastructure (transportation, sewers, levees) • agriculture industry • recreation industry • reduced tax base

Issue T
Operational
• who pays and who operates • operational constraints • elevation release triggers • operating windows • fish entrapment • river water quality standards • river bank-full conditions • design pump capacity • concurrent runoff events • ice jams

How to Get More Information

Write, call, or e-mail

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Internet Web Site

U.S. Army Corps of Engineers,
St. Paul District:
www.mvp.usace.army.mil

North Dakota State Water
Commission:
www.water.swc.state.nd.us

Technical Reports

Reports are available
for review at:

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